

### ***Remarks***

Upon entry of the foregoing amendment, claims 1-12 and 16-37 are pending in the application, with claims 1, 16, 29, 35, and 36 being the independent claims. Claims 1, 4-8, 10-12, 16-24, 26, 29-30, 32, 35, and 36 have been amended. Claim 38 is sought to be added. These changes are believed to introduce no new matter, and their entry is respectfully requested. Based on the above amendment and the following remarks, Applicants respectfully request that the Examiner reconsider all outstanding objections and rejections and that they be withdrawn.

### ***Objection to the Claims***

In the Office Action, the Examiner objected to claim 35 due to matters of form. Applicants have amended claim 35 to improve its form as suggested by the Examiner.

### ***Rejections under 35 U.S.C. §112***

In the Office Action, claims 32, 36, and 37 were rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. Specifically, the rejection stated that the features of 'generation interface' and 'rejection interface' are "neither disclosed nor described in the specification" in sufficient detail as to render the claim enabled.

Applicants' invention is directed to a recommendation system having a constraint filter and a recommendation filter. The use of a generation interface and rejection

interface as elements of the constraint filter and/or recommendation filter represents only one embodiment of the invention. Other embodiments exist. Therefore, Applicants have amended claims 32 and 36 to remove recitation of the generation and rejection interfaces. Thus, the above rejection of claims 32 and 36 and its dependent claim 37 has been rendered moot. Reconsideration and withdrawal of the ground of rejection is therefore respectfully requested

***Rejections under 35 U.S.C. § 102***

Claims 1, 3-12, 29, 30, 34, and 35 were rejected under 35 U.S.C. §102(e) as being anticipated by Bresse, *et al*, U.S. Patent No. 6,006,218 (Bresse). Applicants respectfully traverse this rejection.

Applicants' invention is directed to a method for providing recommendation lists to a user by applying both a constraint filter and a recommendation filter to recommendation requests received at a recommendation server. Through the use of an adaptable constraint filter, a system operator can define a constraint filter which applies to multiple users of the system. In Applicants' invention, a constraint filter is associated with a recommendation request having a first set of attributes. Thus, each time the recommendation server receives a recommendation request having the first set of attributes, the system applies the associated constraint filter, regardless of the identity of the user originating the request.

Claims 1, 29, and 35 have been amended to more particularly recite this aspect of the claimed invention.

Amended claim 1 now recites:

1. A method for providing a recommendation list from a plurality of items, comprising the steps of:  
specifying an adaptable constraint filter to apply to recommendation requests having a first set of attributes, wherein the recommendation requests comprise requests from a plurality of users;  
receiving a recommendation request having the first set of attributes;  
selecting the ones of the plurality of items that satisfy the constraint filter associated with the recommendation request;  
computing a predicted value based on a recommendation filter, for each of the selected ones of the items; and  
appending the selected ones of the items meeting predetermined criteria to the recommendation list.

Amended claim 29 now recites:

29. A method of generating recommendation lists from a plurality of items having assigned category memberships representing attributes of the items, comprising:  
receiving a plurality of recommendation requests, wherein the recommendation requests comprise requests from a plurality of users;  
applying, for each recommendation request, a series of filters to each of the items, the series comprising a constraint filter and a recommendation filter for furnishing a predicted rating value, wherein the constraint filter is selected based on attributes associated with the recommendation request; and  
generating, for each recommendation request, a recommendation list based on the predicted rating value for the item that pass the constraint filter and the recommendation filter.

Amended claim 35 now recites:

35. A method of generating a recommendation from a plurality of items having assigned category memberships representing attributes of the items, comprising:  
building a constraint to apply to recommendation requests having a first set of attributes using constraint forming rules, wherein the recommendation requests include requests from a plurality of users;  
incorporating the constraint into a constraint filter;  
receiving a recommendation request having the first set of attributes;  
applying a series of filters to each of the plurality of items in response to the recommendation request, the series comprising a

recommendation filter for furnishing a predicted rating value, and the constraint filter; and  
generating a recommendation based on the predicted rating value or values for the item or items that pass the constraint filter and the recommendation filter.

Unlike the system of Applicants' invention, Bresse describes an information retrieval system with the search engine and post-processing applications implemented in an end-user's computer system. (Bresse, Fig. 1., col. 4, lines 17-36). In Bresse, a conventional search is performed by the search engine 130 located in the end-user's computer system 120. A post-processing operation is then performed within the computer system using knowledge probability estimates to adjust the rankings/scores generated by the search engine. (Bresse, col. 6, lines 60-67). The knowledge probability estimate is an estimate regarding the probability that items included in the search results are already known to the particular user of the system. Thus, unlike the constraints of Applicants' invention, the knowledge probability estimate is adapted for a specific, individual user.

Based on the above, Applicants submit that Bresse does not teach or suggest every feature recited in Applicants' amended independent claims 1, 29, and 35. Therefore, Applicants request favorable consideration of amended independent claims 1, 29, and 35. For at least these reasons, and further in view of their own features, claims 3-12 and 30 and 34 which depend from claims 1 and 29, respectively, are patentable over Bresse. Reconsideration and withdrawal of the ground of rejection is therefore respectfully requested.

***Rejections under 35 U.S.C. § 103***

**Bresse and Herz**

In the Office Action, claims 2 and 33 were rejected under 35 U.S.C. 103(a) as being unpatentable over Bresse as applied to claims 1, 3-12, 29, 30, 34, and 35 above, and further in view of Herz, U.S. Patent 6,460,036 (Herz). Applicants respectfully traverse this rejection.

Claim 2 depends from claim 1 and claim 33 depends from claim 29. Herz does not overcome all of the deficiencies of Bresse relative to independent claims 1 and 29 described above. For at least these reasons, and further in view of their own features, claims 2 and 33 are patentable over the combination of Bresse and Herz. Reconsideration and withdrawal of the ground of rejection is therefore respectfully requested.

**Bresse and Valentin**

Claims 16-28, 31, 32, 36, and 37 were rejected under 35 U.S.C. 103(a) as being unpatentable over Bresse in view of Valentin, *et al*, (Canadian Patent 2,249,096). Applicants respectfully traverse this rejection.

Applicants' invention, as recited in the above claims, is directed to a system and method for efficiently providing recommendations to a user by determining the lowest cost order in which to apply the constraint and recommendation filters. As discussed in the Reply filed on April 11, 2003, the application of the constraint and recommendation filters constitutes significant processing over and above simple data retrieval. For

example, the application of the recommendation filter involves the computation of a predicted value for each item retrieved from the items table. The predicted value is "essentially an estimate of how much a user is likely to enjoy an item." (Specification, p. 8, lines 5-11).

Unlike Applicants' invention, Valentin is directed solely to the optimization of a single relational database query. In Valentin, the query optimizer generates one or more query execution plans for a specific query. Each query execution plan specifies a set of operations to be performed and has an associated cost. The query optimizer evaluates the costs and determines the query execution plan having the lowest execution cost. (Valentin, p. 2, line 13 - p. 3, line 1). Thus, Valentin does not describe optimizing the execution order of multiple distinct queries. Furthermore, Valentin does not describe or suggest optimizing the execution order of multiple, independent filtering modules having processing separate and distinct from simple data retrieval. Valentin is simply directed to the optimization of a single query by breaking the query into related operations.

Applicants respectfully submit that the combination of Bresse and Valentin fails to teach or suggest all the features of independent claims 16 and 36 and dependent claim 31 which depends from claim 29. Therefore, Applicants request favorable consideration of independent claims 16 and 36 and dependent claim 31. For at least these reasons, and further in view of their own features, claims 17-28, 32, and 37 which depend from claim 16, 31, and 36, respectively, are patentable over Bresse and Valentin, alone or in combination. Reconsideration and withdrawal of the ground of rejection is therefore respectfully requested.

***Other Matters***

In the Office Action, the Examiner states that "[i]n the specification on page 6, lines 14-18, the Applicants disclose that the constraint-forming rules are input by the user." Applicants respectfully disagree with the Examiner's statement. Applicants note that the Examiner's rejections are not based on this comment. Applicants are willing to produce more information on this issue if requested.

***Conclusion***

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicants believe that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment and Reply is respectfully requested.

Respectfully submitted,

  
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